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ABSTRACT

This study assessed the long-term effects on teaching approaches, acquired knowledge, and attitudes regarding small group teaching exhibited by faculty members who attended a 2-day workshop on Small Group Teaching. Each participant in the study was a physician on the faculty of the McGill University Department of Family Medicine and had attended one of several workshops given by the Faculty Development Committee of the Department between the years of 1988 and 1993. Ten study participants were randomly selected from the 47 faculty members who attended, and ten control subjects were selected from the remaining faculty. Objectives of the workshops were to develop small group leadership skills and greater awareness of group dynamics. Participants were monitored for 6 months to 5 years afterwards to measure changes in cognitive learning, teaching behaviors, and attitudes. Three distinct instruments were employed to collect data relating to the three areas of learning. Despite not achieving noticeable statistical differences on all the instruments, several interesting trends did emerge which stack up in favor of participants who attended the faculty development workshops. The experimental group exhibited more specific small group teaching behaviors and greater knowledge about small group teaching than the control group. The experimental group also expressed more appreciation of small group teaching and a greater interest in learning more about group dynamics and teaching techniques than did the control group. (Contains 22 references.) (PRW)

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LONG-TERM IMPACT OF FACULTY DEVELOPMENT WORKSHOPS

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Abstract:

Purpose: This study was designed to measure change in cognitive learning, teaching behaviours, and attitude 6 months to 5 years after a workshop on Small Group Teaching. **Method:** Study participants included 10 faculty members who had attended the workshop between 1988 and 1993, and ten control subjects. Over a three-month period, three distinct instruments were employed to collect data relating to the three areas of learning. **Results:** The experimental group exhibited more specific small group teaching behaviours and greater knowledge about small group teaching than the control group. Significant differences also existed in the areas relating to the use of and attitudes towards this teaching method.

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Introduction

Faculty development programs have been used extensively in the health professions to promote a wide range of knowledge and skills in teaching, research and administration. While faculty development activities have been described in the literature (Hitchcock, Stritter, & Bland, 1993), few studies have actually examined the long-term impact of such programs on participants. Evaluation research has focused more on the short-term impact of programs with high faculty involvement, particularly fellowships and short programs, eg. workshops (Stritter, 1983). A variety of quantitative and qualitative instruments have been used to measure the outcomes of these programs (Hitchcock, et al, 1993). They have ranged from forms that assess immediate participant satisfaction to short-term measures of cognitive learning, attitude change, and teaching behaviours.

The tools used to evaluate short-term change in these three areas resulting from fellowships (Hitchcock, Anderson, Stritter, & Bland, 1988; McGaghie, Bogdevic, Reid, Arnt, Stritter, & Frey, 1990; Bland, Hitchcock, Anderson, & Stritter, 1987; Hitchcock, Lamkin, Mydal, Clarke, & O'Connor Clarke, 1986) and workshops, have included immediate self-reports, interviews, and structured questionnaires (Levinson-Rose & Menges, 1981). Certain studies have focused on participant satisfaction at the end of a faculty development activity (Linder & Witteman, 1984; Stritter & Hain, 1977), others on change in teaching performance through faculty self-ratings and students' assessments (Skeff, Stratos, & Bergen, 1992; Skeff, Stratos, Berman, & Bergen, 1992). Few studies have

used more objective assessments of performance by observing teaching sessions (Skeff, Stratos, Campbell, Cooke, & Jones, 1986; Skeff & Stratos, 1985. Nor has research addressed the long-term effects of faculty development activities on teaching (Jedrychowski & Galligani, 1978; Nerup, Thomsen, & Vejlsgaard, 1972; Sheets & Henry, 1984; Sheets & Henry, 1988).

Since most studies have relied heavily on self-report data, and self-reports have been shown to have a poor correlation with what teachers actually do (Hartman & Nelson, 1992), the results need to be interpreted with caution. Such data may be rendered more robust if they were complemented with more objective performance-based methods which are better indicators of the impact of short programs on acquired knowledge and change in teaching behaviours (Sheets & Schwenk, 1990; Linn, Baker, & Dunbar, 1991; Sheets, 1985). As well, studies are needed to evaluate the long-term impact of faculty development activities on attitudes, cognitive learning, and teaching behaviours. To this end, a study was conducted to assess the long-term effects on teaching by faculty members who attended a two-day workshop on Small Group Teaching between 1988 and 1993.

Method

Subjects

Twenty randomly selected subjects comprising two groups (experimental and control) took part in this study. Participants in the experimental group included 10 faculty physicians who had attended a workshop on small group teaching between 1988 and 1993

and were randomly chosen from a total of 47 workshop participants. Three had attended the workshop in 1988, one in 1989, four in 1991, and one in 1993. From the remaining faculty members (n=45), another 10 were selected at random for the control group. Subjects were matched for the number of years of teaching experience.

Intervention

All experimental group members had attended the two-day workshop on Small Group Teaching which has been offered yearly since 1988 by the Faculty Development Committee of the Department of Family Medicine at McGill University. The main objectives of the workshop were to develop small group leadership skills and an awareness of group dynamics. The two days were divided into short theoretical didactic sessions and small group sessions involving group discussions, hands-on practica, and role plays. The content and format of the workshop have remained stable over the last five years. At the end of the course, participants were asked to fill out an evaluation form. Overall, the workshop activities have been highly rated with 80-90% of participants finding them either "useful" or "very useful".

Data Sources

Three instruments were developed and administered to collect data for this study. The first was an observation grid used for assessing leadership skills such as advance planning, convening groups, creating an atmosphere for learning, focusing group activities, summarizing and evaluating, and observing group

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processes. Participants were observed at the beginning of the study while they taught a group of 4-10 residents on a topic of their choice at a team meeting or in sign-out rounds at the end of a clinic. A trained observer rated the teaching in the span of four weeks. Scoring values were "Done", "Not Done", and "N/A".

The second instrument consisted of 10 cases/scenarios depicting specific teaching tasks all of which had been presented and discussed in the workshop. This was used to assess cognitive learning. Five questions referred to leadership skills; five questions focused on group dynamics. A short answer format was used in order to assess participants' recall of the material covered. Points were assigned for each acceptable answer adding up to a maximum possible score of 35.

The third instrument was a structured questionnaire for an interview conducted twice; once as a retrospective pre-intervention and again as a post-intervention. For the experimental group, pre- referred to the participants' view of their teaching career before they attended the workshop; for the control group, it was their early years in teaching. "Post-" for both groups was the present. This interview explored participants' use of small group teaching, the assessment of their own leadership skills, commonly encountered problems and strategies used to overcome them, knowledge of group processes, and use of innovative teaching methods. These instruments were administered in the order that they are introduced above.

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Analysis

Chi square analysis were carried out to compare within and between group differences in the observation data. A Mann-Whitney U teat was carried out to establish within and between group differences in total scores yielded in the scenarios followed by chi-square analysis to determine within and between differences on each of the 10 scenarios. Finally, chi-square analysis were conducted for comparing within and between group differences in the two sets of coded interview data.

Results

Five individuals (50%) from the control group and seven (70%) from the experimental group were observed teaching in a team meeting setting while the rest of the participants taught at sign-out rounds post-clinic. The observation data showed no significant differences either between or within groups for any of the behaviors. Only one item, "puts together points made by members", approached significance (p=.056) between groups. Another item, "use of open-ended questions", was used more frequently by the experimental group (p=.11). In general, the experimental group did have more frequent "Dones" (149 vs. 131) and fewer "Not Dones" (30 vs. 50) as compared to the control group (p=.013). Of note was the number of "not dones" in both groups for the item "makes a final summary for closure", and "obtains feedback from the participants on the teaching session".

With regards to the scenario results, there were no significant differences in total scores in either group although the experimental received a mean rating of 11.85 on the Mann-Whitney U Test while the control group received 9.15 (p=.30). Chi-square analysis for each question yielded no significant difference within or between group, although here again the experimental group scored higher on eight out of the ten scenarios.

The interviews yielded information on the practice and teaching experience of the study participants, on their use of small group teaching, and on their attitudes towards this teaching method. The mean number of years in practice was 7.8 for the control group and 7.2 for the experimental group (p=.79). The mean number of years in teaching was 5.8 for the control and 4.7 for the experimental group (p=.58). Two members from the control group had taken a fellowship year in Family Medicine early in their careers. Answers to the questions on the meaning, use, and enjoyment of small group teaching, understanding of group dynamics, and use of innovative teaching methods, are summarized in Table 1.

On the pre-intervention retrospective interview, 50% of the control and 60% of the experimental group defined small group teaching as a lecture to a small number of people, while almost all of the remaining members of each group considered it an interactive session. This pattern changed in the post-intervention interview with 80% of the control group and 100% of

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the experimental group defining small group teaching as interactive. The level of satisfaction and enjoyment of teaching small groups also changed. In the pre-intervention questionnaire, 80% of the control and 60% of the experimental group claimed that they enjoyed this method whereas in the post-intervention, this changed to 100% for the experimental group. The percentage for the control group remained the same (p=.109).

With respect to awareness of group dynamics, 20% of both groups stated that they had an awareness before the intervention. This changed to 30% for the control group and 100% for the experimental group after the intervention (p=.003). Finally the frequency of use of innovative teaching methods was initially claimed to be 40% for the control group and 10% for the experimental group. Methods used included role plays and videotapes. This changed to 70% for the controls and 80% for the experimental group in the post-interview (p=.42), and included models, quizzes, games, debates, and handouts.

The difficulties encountered in small group teaching by ~~the~~ both groups remained stable: issues of credibility, lack of preparation, and problems engaging the group participants and dealing with difficult members. Both groups demonstrated a slight change in strategies used to overcome these problems by moving from "taking over and lecturing" to involving the participants in the teaching.

Only one study participant, from the control group, had previously taken a workshop on Small Group Teaching other than

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the one offered at McGill. Seven members from the control group expressed interest in learning more about different teaching techniques or methods that could be used in small groups. On a scale of 1 (not useful) to 5 (extremely useful), the experimental group rated the workshop in the following manner: three as a "3", five as a "4", and two as "5". In retrospect, the most useful sessions offered in the workshop were those that dealt with different teaching techniques and methods and group dynamics.

Discussion

The Small Group Teaching workshop was designed to promote changes in cognitive learning, attitudes, and teaching behaviours. The study instruments were developed to evaluate whether such change had occurred and had been sustained over time. By choosing the experimental group from a series of past participants, it was possible to look at a time frame of from six months to five years. The interviews looked at retrospective-pre and post self-report data in order to assess changes in attitude towards small group teaching. This design was used to avoid the response-shift bias seen in traditional pre test designs (Skeff, et al, 1992; Bland, Reineke, Welch, & Shahady, 1979). The scenarios explored cognitive learning, while the observations allowed for an objective performance-based evaluation of specific teaching behaviours.

There may be several reasons that account for not achieving statistically significant results on all of the instruments. The number of participants in the study was small. As well, two from

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the control group had graduated from a fellowship programme in Family Medicine giving them some of the teaching skills that were covered in the workshop. This study could, however, be considered as a pilot project to test the three instruments prior to carrying out a larger scale study.

Despite not achieving noticeable statistical differences in many of the analysis, several interesting trends did emerge which stack up in favour of participants who attended the faculty development workshops. The experimental group exhibited more of the teaching behaviours taught in the workshop. Cognitive learning on both leadership skills and group dynamics was also found to be superior in this group. The retrospective pre- and post-intervention interviews yielded interesting data on attitudes and use of small group teaching. The experimental group felt that greater change had taken place in their understanding of this method, their use and enjoyment of teaching in small groups, their appreciation of small group dynamics, and their use of innovative teaching methods. As well, the workshop was rated as useful to very useful by those who had attended. Of note is their appreciation for the sessions on group dynamics and teaching techniques which were areas that the control group expressed interest in learning more about. This information will be valuable in planning future workshops.

Each instrument was developed to measure a different learning outcome. From the above trends, it would appear that:

1) attitudes towards small group teaching improved more in the experimental group, 2) learning at a cognitive level was greater in this group, and 3) specific teaching behaviours were exhibited more by those who had attended the workshop. Whether these findings can be attributed to the workshop or to years of experience cannot be answered; however, the lack of significant within group differences on the observation grid and the case scenarios for both groups would argue against this. Nor can the possibility of "contamination" of the control group by the experience of the experimental group be assessed.

A study with a larger number of participants using refined instruments is needed to answer these questions. Nonetheless, the authors believe that the workshop did have an effect on the attitudes, teaching skills, and cognitive learning of the participants in the long-term. The strength of their workshop can be attributed to: the choice of a relevant topic and educational methods, the involvement of participants, the use of credible facilitators, and the practical two-day format. These characteristics have been described by other faculty development authors in their recommendations for effective programs for improving clinical teaching in the health professions (Skeff & Stratos, 1985; Bland & Stritter, 1988).

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Conclusion

Faculty development workshops have been used in the health professions to improve the quality of teaching of faculty members. Few studies have examined the long-term effect of these activities on attitude formation, cognitive learning, and teaching behaviours. The educational importance of studies such as this one rests in the contribution they make towards accumulating empirical evidence for the long-term impact of faculty development programs. Moreover, as is the case with this study, they can serve as pilot data to refine instruments used to conduct larger scale studies as follow-up.

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